UASolutions Group, LLC
19940 Simla Hwy
Sinla, CO 80835
Tel: (321) 261-2547

kellyneubecker@gmail.com

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U.S. Department of Transportation, Docket Operations
West Building Ground Floor, Room W12-140
1200 New Jersey Avenue, SE
Washington, DC 20590

Re: Summary Grant Petition for an Exemption under Part 11 of the Federal Aviation Regulations from 14 C.F.R. 107.36, 14 C.F.R. 137.19(c), 14 C.F.R. 137.19(d), 14 C.F.R. 137.19(e)(2)(ii), 14 C.F.R. 137.19(e)(2) (iii), 14 C.F.R. 137.19(e)(2)(v), 14 C.F.R. 137.31(a), 14 C.F.R. 137.31(b), 14 C.F.R. 137.33(a), 14 C.F.R. 137.33(b), 14 C.F.R. 137.41(c), 14 CFR § 137.41(c), 14 C.F.R. 137.42, and 49 C.F.R. 175.9(b)(1).

A. SUMMARY:

On behalf of our client, MAVERICK DRONE SYSTEMS, LLC., an agricultural services company (hereafter known as MAVERICK DRONE SYSTEMS), and pursuant to provisions of 14 C.F.R. 107, 14 C.F.R. 137, and 49 C.F.R. 175, MAVERICK DRONE SYSTEMS, (hereafter known as the "Petitioner"), hereby respectfully requests expedited approval and necessary exemptions from the following listed Code of Federal Regulations ("CFR") for the purpose of operating the DJI AGRAS T-10 Small Unmanned Aircraft System ("sUAS") with a maximum weight of 54.67 pounds, for aerial agricultural vegetation control and management operations in remote rural operating environments throughout the United States. The operations will be conducted within and under the conditions outlined herein, or as may be established by the FAA, as required under 14 CFR Part 107.

The proposed operation in this Petition for Exemption are similar in nature to those currently conducted by Droneseed, Exemption No. 17261.

As described more fully below in this particular petition, the requested exemption would permit the operation of the DJI AGRAS T-10 by petitioner, under controlled conditions in predetermined airspace that is, 1) Limited in scope 2) Controlled as to access by mission essential personnel only. MAVERICK DRONE SYSTEMS asks the FAA to grant its petition

because (A) granting the request would benefit the public as a whole and; (B) granting the exemption will not adversely affect safety because the exemption will provide a level of safety at least equal to the existing rules, and as expressed herein, significant cost savings can be achieved by transitioning from traditional manned aerial resources to UASs.

The petitioner respectfully requests that the FAA grant the requested exemption without delay. Petitioner will operate the DJI AGRAS T-10 while keeping the documents required by the regulations at the ground control station and immediately accessible to the Pilot in Command (PIC) and by modification of the required markings (registration number) of the UAS to be displayed on the fuselage.

The relief requested in this Petition is considered a summary grant as the DJI AGRAS T-10 aircraft has been recently approved by the FAA for commercial agricultural related services in numerous other exemptions. It is also analogous that granted in Exemption No. 17261.

The name and address of the Petitioner is:

MAVERICK DRONE SYSTEMS, LLC.

The primary contact for this petition, with a copy to me at the address above is:

Adam Shaw
7385 Hwy 13 W
Savage, MN 55378

In support of this Petition for Exemption, MAVERICK DRONE SYSTEMS will submit the following associated UAS operating documents:

- DJI Agras T-10 Manuals Link

All other documents have been submitted under tracking number kz3-1asx-xe81.

All of these documents will be submitted on a confidential basis under separate cover, pursuant to 14 C.F.R. § 11.35(b), as the documents contain confidential commercial and proprietary information that MAVERICK DRONE SYSTEMS has not and will not share with others. The information contained in this material is not generally available to the public and is protected from release under the Freedom of Information Act, 5 U.S.C. § 552 *et seq*.

B. BACKGROUND OF PETITIONER AND MANUFACTURER

MAVERICK DRONE SYSTEMS provides Commercial agricultural spraying services with the knowledge and operational infrastructure to conduct precision crop spraying in a safe, precise, and legal manner. The DJI AGRAS T-10 platform chosen for the operations include the most sophisticated features, are manufactured to be durable, and are the easiest to use systems on the market. Additionally, MAVERICK DRONE SYSTEMS strives for innovative power cell technology with improved power, performance, longevity and superior weight standards for UAS. DJI Products are designed for maximum flight time with minimum down time. MAVERICK DRONE SYSTEMS helps customers maximize the value of their land in an efficient, cost-competitive manner utilizing UAS reducing reliance on manual labor, while minimizing environmental impact.

The UAS for the purposes of this petition is the DJI AGRAS T-10 sprayer drone with a maximum takeoff weight of 54.67 lbs. when operating with full tanks:

DJI has an unparalleled presence in the UAS market with steadfast commitment to R&D, a culture of constant innovation and curiosity, and a focus on transforming complex technology into easy-to-use devices. Building on the ethos of “form follows function,” DJI products combine advanced technology with dynamic designs.

Established to produce DJI’s innovative products safely and responsibly, the wholly owned subsidiary Shenzhen Dajiang Baiwang Technology Co., Ltd. is a high-tech manufacturing facility specializing in unmanned aerial vehicles.

In 2016, Dajiang Baiwang passed the ISO 9001:2015 Quality Management System Certification and in 2017 passed the SGS ISO 14001:2015 Environmental Management System Certification.

DJI’s offices can now be found in the United States, Germany, the Netherlands, Japan, South Korea, Beijing, Shanghai, and Hong Kong. As a privately owned and operated company, DJI focuses on its vision, supporting creative, commercial, and nonprofit applications of their technology.

Today, DJI products are redefining industries. Professionals in filmmaking, agriculture, conservation, search and rescue, energy infrastructure, and more customers trust DJI to bring new perspectives to their work and help them accomplish feats safer, faster, and with greater efficiency than ever before.

To date, sales of the DJI Agras T-16, T-20, AND T-30 have occurred in Japan and China for over a year with a combined total of 5,856,935 hours flown without any recorded incidents.

MAVERICK DRONE SYSTEMS will be utilizing the same DJI AGRAS T-10 as well as other proven technologies the FAA has already accepted and approved in numerous previous Exemptions. All of the appropriate documentation to accompany MAVERICK DRONE SYSTEMS’s Petition is included.

C. SYSTEM BENEFITS AND ENHANCED SAFETY

1. MAVERICK DRONE SYSTEMS’s intent along with a complete range of vegetation control and management services, is to apply pesticides and herbicides at the request of private and commercial companies as well as potential Governmental organizations. This process protects crops from biological organisms, including weeds, pathogens, and arthropods, that interferes with the production of crops affecting quality and/or yield. Insects in Particular can have large and irreversible effects on crops and yields, which can impact consumers through higher crop prices. Spraying herbicides benefits agricultural ecology and increases the efficiency of harvesting operations. Moreover, the efficient methods to be applied by MAVERICK DRONE SYSTEMS optimizes the use of herbicides thus reducing the negative impact of excess pesticide application and residual chemicals being left in the soil or running off into streams or the water table.

2. Applications by manned helicopters for agriculture carries significant risks of fatality.[1] This was such a concern that in 2014 the National Transportation and Safety Board commissioned a report to understand root causes. The enhanced safety achieved using an unmanned aircraft with the specifications described in this petition, as opposed to the much larger, manned aircraft carrying fuel and crew or passengers, is safer and exposes workers and other people on the ground to significantly less risk. Additionally, MAVERICK DRONE SYSTEMS's UA use batteries which are not as flammable and explosive as 100LL or Jet A fuel. If there was an emergency where the UA crashed, there is a significantly lower chance of individuals being injured from an explosion or fire.

3. According to a USDA Economic Research Service Report, of the United States' 408 million acres of cropland, about 70% (286 million acres) is commercially treated with crop protection products. Out of that, the agricultural aviation industry treats 71 million acres of cropland aerially each year. By utilizing UAS, this vital portion of our nation's food supply can be treated in a more environmentally safe way, thus protecting our streams from excessive chemical run off, algae blooms, etc.

4. A large portion of the agricultural land is currently sprayed by crews on foot, carrying heavy loads on steep, dangerous terrain. MAVERICK DRONE SYSTEMS will replace this method using its aircraft. It is in the interest of safety to reduce worker exposure to this difficult and dangerous environment.

5. Manned aircraft availability and scheduling are becoming increasingly difficult and costly for MAVERICK DRONE SYSTEMS customers. On average, each manned aerial application business has 2.1 aircraft, ranging in price from $100,000 to $1,400,000 depending on hopper size, engine type and engine size. Pilot shortages, aircraft shortages, and driver shortages are increasing. Smaller owners and non-governmental organizations without several hundred thousand acres are finding it difficult to obtain economical services with these figures. MAVERICK DRONE SYSTEMS can increase service providers at a lower cost and alleviate pilot and service shortages for small landowners.

6. Manned airplanes and helicopters produce significant noise pollution that disrupt the public's ability to enjoy both private and public property. UAS are much quieter and will not disrupt the public as much as manned aircraft; thus, the benefit will be recognized as a reduction in noise pollution.

7. Pesticides being sprayed from high elevations can be picked up by the wind and carried for miles. By flying at a lower altitude (6-12 m), and by never leaving the customer's site, there is a significantly reduced chance of pesticides ("driftable fines") being accidentally sprayed in the wrong area. With manned aircraft and helicopters, this can happen in a number of ways: Pilot error or map misinterpretation en route to the site, pesticides being picked up by the wind and blown onto neighboring property

[1] See e.g., NTSB Special Investigative Report on the Safety of Agricultural Aircraft Operations, NTSB/SIR-14/01 (Adopted May 7, 2014):
"78 accidents [and 10 fatalities] occurred during calendar year 2013 and involved some aspect of agricultural (ag) operations, pilot training, or other crop protection activities. The report identifies the following recurring safety issues: lack of ag operations-specific fatigue management guidance, lack of ag operations-specific risk management guidance, inadequate aircraft maintenance, and lack of guidance for pilot knowledge and skills tests."

affecting commercial cropland and residential areas, and equipment malfunction.

D. DESCRIPTION OF UAS

The aircraft is a multi-rotor UAS aircraft comprised of a VTOL UA and a transportable Ground Control Station (GCS). It provides a wide array of essential agricultural spraying services, including watering, fertilizers, pesticides, and herbicides. It can also be equipped with sensors and equipment to detect and monitor agricultural areas that require irrigation, fertilization, or other treatments. It does not carry any flammable propellant or fuel.

Numerous companies are currently operating the T-10 throughout the United States. The complete dimensions and physical characteristics of the UAS are listed in the DJI Agras T-10 Manual for FAA review.

I. Standard Components and Safety Systems

The DJI Agras T10 has onboard safety features that ensure the sUAS can operate safely under both normal and contingency operating conditions. These features include automation to increase safety and reduce pilot workload. Some examples are the Return to Home (RTH) feature which will navigate the· sUAS to a certain RTH altitude, then transport the sUAS to the location of takeoff, unless overridden with a new home location. RTH activates in the case of lost signal and can be activated by the pilot for reasons such as loss of visual line of sight, low battery level or loss of control of the sUAS. The DJI Agras T10 incorporates fly away prevention measures by allowing a maximum operating height and radius from the home point to be set. For autonomous, or semi-autonomous flight, the DJI Argras T10 makes use of a Spherical Radar System which detects obstacles in forward, backward, upward, downward, and horizontal directions and prevents the aircraft from collision by stopping or re-routing the aircraft. This system also guides the aircraft over steep and uneven terrain, while maintaining proper spray application altitude, which frees up the pilot to focus more on other aspects of mission safety such as maintaining VLOS and observing weather conditions. The DJI Agras T10 sUAS fits the definition outlined in the statute as a small unmanned aircraft weighing less than 55 pounds and will be operated under 14 C.F.R. § 107. When conducting agricultural aircraft operations, the DJI Agras T10 will be operated in accordance with both 14 C.F.R. § 107 and 14 C.F.R. § 137 except in those areas for which an exemption is requested.

E. REGULATORY BASIS FOR PETITION AND REGULATIONS FROM WHICH EXEMPTION IS SOUGHT

1. 49 U.S.C. § 44701

The FAA is authorized to grant exemptions from its safety regulations and minimum standards under 49 U.S.C. § 44701 ("Section 44701") "if the Administrator finds the exemption is in the public interest." Section 44701(f) (authorizing the grant of exemptions from safety regulations and minimum standards under Section 44701(a) and (b) and Sections 44702-44716). Under 49 U.S.C. § 44701(f), the "Administrator may grant an exemption from a requirement of a regulation prescribed under subsection (a) or (b) of this section or any of sections 44702-44716 of [Title 49] if the Administrator finds the exemption is in the public interest." Listed below are specific Code of Federal Regulation ("CFR") sections from which an exemption is sought, the rationale for why an exemption is needed, and a brief summary of the operating procedures and safeguards, which are described more fully in the operating documents being submitted under separate cover, which will ensure that the proposed operations can be

conducted at a level of safety that is at least equal to that provided by the rule from which exemption is sought.

To expedite the FAA's safety assessment of the proposed UAS operations, except where explicitly noted, MAVERICK DRONE SYSTEMS agrees to conduct the proposed operations in accordance with the same applicable conditions and limitations ("Limitations") included in the previous Droneseed Exemption, Exemption No. 17261.

I. Regulations from which exemption is requested:

- 14 C.F.R. 107.36, *Carriage of Hazardous Material*
- 14 C.F.R. 137.19(c), *Certification Requirements, Commercial Operator - pilots*
- 14 C.F.R. 137.19(d), *Certification Requirements; Aircraft*
- 14 C.F.R. 137.19(e)(2)(ii), *Certification Requirements; Knowledge and skill tests; skills; approaches to the working area*
- 14 C.F.R. 137.19*(e)(2)* (iii), *Certification Requirements; Knowledge and skill tests; skills; flare-outs*
- 14 C.F.R. 137.19(e)(2)(v); *Certification Requirements; Knowledge and skill tests; skills; pullups and turnarounds*
- 14 C.F.R. 137.31(a), *Aircraft Requirements*; *Certification Requirements*
- 14 C.F.R. 137.31(b) *Shoulder Harnesses*
- 14 C.F.R. 137.33(a), *Carrying of certificate; Certificate carried on the aircraft.*
- 14 C.F.R. 137.33(b) *Registration and airworthiness certificates available.*
- 14 C.F.R. 137.41(c), *Personnel; Pilot in Command; Commercial certificate*
- 14 CFR § 137.41(c), *Personnel; Pilot in command; demonstration of knowledge and skills.*
- 14 C.F.R. 137.42, *Fastening of safety belts and shoulder harnesses.*
- 49 C.F.R. 175.9(b)(1), *Special Aircraft Operations; Exceptions; Agricultural Operations*

II. FAR Pertaining to Part 107 Requirements

A. 14 C.F.R. 107.36, *Carriage of Hazardous Material*

B. 14 C.F.R. 107.36, *Carriage of Hazardous Material*

Part 107.36 of Chapter 14 prohibits the "Carriage of Hazardous Material" by a small unmanned aircraft. The Petitioner does not believe that this provision applies to its intended operations because holding pesticides in hoppers or tanks for aerial spraying does not constitute the "carriage of hazardous material" as contemplated by Part 107, Part 137, or Subchapter C of Chapter 49.

Part 107.36 reads as follows: "A small unmanned aircraft may not carry hazardous material." For purposes of this section, the term hazardous material is defined in 49 CFR 171.8."

Section 175.9 of Chapter 49, *Special Aircraft Operations,* explains that the prohibition against carrying hazardous materials does not apply to hazardous materials "loaded and carried in hoppers or tanks of *aircraft certificated for use* in aerial seeding, dusting spraying, fertilizing, crop improvement, or pest control, to be dispensed during such an operation." (emphasis added).

Petitioner intends on dispensing economic poisons, some of which may be hazardous.

C. 49 C.F.R. 175.9(b)(1), *Special Aircraft Operations; Exceptions; Agricultural Operations*

The Petitioner requests an exemption from the requirement in 175.9 that aircraft be certificated in order to be excluded from the prohibition on carrying hazardous materials because the Petitioner' UAS is not "an aircraft certified for [agricultural] use." For all of the reasons stated in 14 C.F.R. 107, the rulemaking discussion thereof, in AC 107-2, and within this Petition, the Petitioner can achieve an equivalent level of safety to a certified aircraft when carrying pesticides in hoppers or tanks. There will be no crew on board, the aircraft will be flying in remote areas, will be subject to a pre-flight inspection, and will be operated in full compliance with Part 107. Such a determination is in accord with the exemption granted to Yamaha, although that exception did not explicitly reference 49 CFR 175.9.

D. 49 C.F.R. 175.9(b)(1), *Special Aircraft Operations; Exceptions; Agricultural Operations*

The Petitioner requests an exemption from the requirement in 175.9 that aircraft be certificated in order to be excluded from the prohibition on carrying hazardous materials because the Petitioner' UAS is not "an aircraft certified for [agricultural] use." For all of the reasons stated in 14 C.F.R. 107, the rulemaking discussion thereof, in AC 107-2, and within this Petition, the Petitioner can achieve an equivalent level of safety to a certified aircraft when carrying pesticides in hoppers or tanks. There will be no crew on board, the aircraft will be flying in remote areas, will be subject to a pre-flight inspection, and will be operated in full compliance with Part 107. Such a determination is in accord with the exemption granted to Yamaha, although that exception did not explicitly reference 49 CFR 175.9.

III. FARs Pertaining to Part 137 Certification Requirements

MAVERICK DRONE SYSTEMS seeks an exemption from the following FARs in Part 137: §§ 137.19(c), (d) and (e)(2)(ii)(iii) and (v) *Certification requirements*, 137.31 *Aircraft requirements*, 137.33 *Carrying of certificate*, 137.41(c) *Personnel*, and 137.42 *Fastening of safety belts and shoulder harnesses*. An exemption from these FARs is necessary because the provisions are either not compatible with or are unnecessary in the context of the proposed UAS operations.

§ 137.19(c) Certification requirements

In the previous exemptions, the FAA determined that relief from § 137.19(c) was necessary to permit persons holding a remote PIC certificate with small UAS rating to act as PIC for commercial agricultural aircraft operations when utilizing a small UAS to conduct the operations. The FAA found that a commercial or airline transport certificate that § 137.19(c)

requires was not a reasonable requirement for small UAS agricultural operations. The basis for the relief was that remote PICs would comply not only with the requirements of Part 107, subPart C, but also with the additional knowledge and applicable skill requirements in FAR § 137.19(e)(1) and (2)(i), (iv) and (vi). The relief was also based, in Part, on compliance with the training requirements in operating documents.

MAVERICK DRONE SYSTEMS's proposed operations are otherwise identical to that previously approved by the FAA in Exemption No.17261. Consistent with the FAA's prior analysis, compliance with the requirements of Part 107, subpart C, the additional knowledge and applicable skill requirements in FAR § 137.19(e)(1) and (2)(i), (iv) and (vi), and compliance with the training requirements in MAVERICK DRONE SYSTEMS's operating documents, an equivalent level of safety will be achieved.

§ 137.19(d) Certification requirements
§ 137.31 Aircraft requirements

In Exemption No. 17261, the FAA granted Droneseed an exemption to §§ 137.19(d), *Certification requirements,* and 137.31(a), *Aircraft requirements.* Consistent with the FAA's prior analysis in Exemption No. 17261, while MAVERICK DRONE SYSTEMS 's UAS will not have an airworthiness certificate, MAVERICK DRONE SYSTEMS will be capable of ensuring that the UAS are in a condition for safe operation based upon a thorough pre-flight inspection and compliance with the operating documents. The UAS components have a proven operational history and contain design safety features such that operations conducted under the requirements of this exemption will not adversely impact safety.

§ 137.19(e)(2)(ii), (iii), and (v) Certification requirements
§ 137.41(c)

MAVERICK DRONE SYSTEMS seeks an exemption from the knowledge and skill test requirements in § 137.19(e)(2)(ii), (iii), and (v) *Certification requirements,* because those requirements are not compatible or applicable to MAVERICK DRONE SYSTEMS 's proposed UAS operations. Consistent with the FAA's prior analysis in Exemption No. 17261, MAVERICK DRONE SYSTEMS 's training and certification program described in the operating documents provides the remote PIC with the necessary skills to safely operate the UAS. For this reason, granting relief from a demonstration of the skills described in § 137.19(e)(2)(ii), (iii), and (v) will not adversely impact safety, and therefore relief is warranted. MAVERICK DRONE SYSTEMS 's pilots operating UAS under the exemption will still be required to demonstrate the skills listed at § 137.19(e)(2) as applicable, in accordance with the provisions of § 137.19(e), which requires such demonstration in order to obtain the agricultural aircraft operator certificate, unless otherwise exempted. Also, consistent with the FAA's finding in Exemption No. 17261, that relief from the associated knowledge and skill test requirements of § 137.41(c) is also warranted because of the relief provided to § 137.19(e)(2)(ii), (iii), and (v), MAVERICK DRONE SYSTEMS seeks an exemption from the interrelated knowledge and skill test requirements of § 137.41(c).

F. PILOT CERTIFICATION ANALYSIS

The Part 107 certificate is intended to permit commercial UAS operations and replace the need for a commercial certificate under Part 61 when conducting operations for hire. As explained,

the Petitioner is, through its own training program, requiring experience and training beyond that required by Part 107 in order to achieve a level of safety equivalent to what would be obtained using operators holding commercial certificates under Part 61.

Moreover, the Petitioner will demonstrate the applicable practical skills required by Part 137 prior to conducting agricultural operations.

The following comparison between the commercial pilot requirements contained in Part 61 and the requirements contained in Part 107 demonstrates why the petitioner should be exempted from the provisions in Part 137 that require possession of a Part 61 commercial certificate.

Part 61.123 requires Commercial pilots to be at least 18 years of age and able to have a level of English competency. MAVERICK DRONE SYSTEMS will require its pilots to be at least 18 years of age. English competency is required by Part 107. The following chart addresses each aeronautical knowledge requirement of 14 CFR 61.125 and explains whether it is relevant to, different from, or addressed by Part 107 operations or MAVERICK DRONE SYSTEMS internal procedures.

Part 61.125, Aeronautical Knowledge	**MAVERICK DRONE SYSTEMS Operations Under Part 107**
(1) Applicable Federal Aviation Regulations of this chapter that relate to commercial pilot privileges, limitations, and flight operations;	Addressed by Part 107
(2) Accident Reporting	Addressed by Part 107
(3) Basic aerodynamics and the principles of flight	Topics applicable to unmanned aircraft are included in Part 107.
(4) Meteorology	Applicable meteorology principles are covered by Part 107.
(5) Safe and Efficient Operation of Aircraft	Covered by Part 107 and included in MAVERICK DRONE SYSTEMS training.
(6) Weight and Balance	"Loading and Performance" is addressed by Part 107. MAVERICK DRONE SYSTEMS will comply with the weight limitations of Part 107 and will ensure that external loads do not negatively impact flight characteristics, as required by Part 107.
(7) Performance Charts	Not directly applicable.
(8) Effects of exceeding aircraft performance limitations	Not directly applicable. Topics applicable to unmanned aircraft are included in Part 107.
(9) Pilotage and dead reckoning	Not applicable.
(10) Use of air navigation facilities	Topics applicable to unmanned aircraft are included in Part 107.
(11) Decision making and judgment	Covered by Part 107

(12) Principles and functions aircraft systems	Covered by Part 107 and by MAVERICK DRONE SYSTEMS internal procedures and use of operations manuals
(13) Emergency operations	Covered by Part 107.
(14) Night and high altitude	Not applicable.
(15) Operating within the national airspace system.	Covered by Part 107.
(16) Lighter than air ratings.	Not Applicable.

Section 127 of Part 61 contains flight proficiency requirements for specified aircraft categories. Part 107 contains no flight proficiency requirements. MAVERICK DRONE SYSTEMS will require flight proficiency. Specifically, just as required by Part 61, the Petitioner will require demonstrated multi-rotor proficiency in: preflight preparation; preflight procedures; airport and heliport operations; hovering maneuvers; takeoffs, landings, and go-arounds; performance maneuvers; navigation; emergency operations; special operations; and postflight procedures.

Section 129 of Part 61 contains requirements for aeronautical experience. MAVERICK DRONE SYSTEMS will require its pilots to obtain an appropriate level of aeronautical experience, using 61 CFR 129 as a guide in order to achieve an equivalent level of safety. Many of the requirements of section 129, however, are either inapplicable or excessive for MAVERICK DRONE SYSTEMS's proposed operations. Commercial helicopter ratings require at least 150 hours of flight time. Much of this, however, need not be in a helicopter or as the pilot in command. Other flight time requirements in Part 61 are cross- country time or instrument time. There is no need for Part 107 remote pilots to obtain time spent in cross-country flight or instrument flight. MAVERICK DRONE SYSTEMS pilots will spend all of their time flying the make and model of multi-rotor aircraft that will be used in their operations. These aircraft are far less complicated than manned aircraft. The pilots can, therefore, achieve a comparable level of experience and safety by requiring 20 hours of total flight time of a multi-rotor system as the pilot-in-command with at least 10 take-off and landings. This will be required by the operations manual and training program.

In sum, the FAA's own "Analysis of Risk" in the Rulemaking discussion for Part 107 explains perfectly why MAVERICK DRONE SYSTEMS should be exempted from the requirement contained in Part 137 that pilots conducting agricultural operations obtain certifications under Part 61.

> *While these airman certification requirements are necessary for manned aircraft operations, they impose an unnecessary burden for many small UAS pilots because a person obtains a pilot certificate under part 61 by learning how to operate a manned aircraft. Much of that aeronautical experience/flight training is not applicable to small UAS operations because a small UAS is operated differently than a manned aircraft. In addition, the aeronautical/flight experience currently necessary to obtain a pilot certificate under part 61 does not equip the certificate holder with all of the tools necessary to safely pilot a small UAS. Specifically, applicants for a pilot certificate under part 61 currently are not trained in how to deal with those aspects of "see-and-avoid" and loss-of-positive- control safety issues that are unique to small unmanned aircraft. Thus, requiring persons wishing to operate a small UAS to obtain a pilot*

certificate under part 61 imposes the cost of airman certification on those persons, but does not result in a significant safety benefit because the process of obtaining the certificate does not equip those persons with all of the tools necessary to mitigate the public risk posed by small UAS operations.

The FAA should, therefore, exempt the Petitioner from the requirement contained in 14 C.F.R. 137.19(c) that at least one person hold a current U.S. commercial or airline transport pilot certificate and who is properly rated for the aircraft to be used.

§ 137.31(b) Aircraft requirements

§ 137.42 Fastening of safety belts and shoulder harnesses

MAVERICK DRONE SYSTEMS seeks an exemption from § 137.31(b) *Aircraft requirements,* and § 137.42 *Fastening of safety belts and shoulder harnesses,* which relate to the installation and use of a shoulder harness and safety belt on an aircraft. An exemption from these requirements is warranted because MAVERICK DRONE SYSTEMS's UAS do not have an onboard pilot and these regulations are intended to ensure the safety of the onboard pilot during manned agricultural aircraft operations. For this reason, granting the requested relief from §§ 137.31(b) and 137.42 will not adversely impact safety.

§ 137.33(a) and (b) Carrying of certificate

MAVERICK DRONE SYSTEMS requests relief from § 137.33(a) *Carrying of certificate*, which requires that a facsimile of the agricultural aircraft operator certificate be carried on the aircraft. The FAA has previously determined that relief from §§ 91.9(b)(2) and 91.203(a) and (b) for the carriage of the aircraft flight manual and aircraft registration onboard the aircraft is not necessary. Consistent with the FAA's prior analysis, an exemption is warranted here provided that a facsimile of the agricultural aircraft operator certificate and all certificates of registration are kept in a location accessible to the remote PIC.

Finally, given that MAVERICK DRONE SYSTEMS 's UAS will not have an airworthiness certificate, relief from § 137.33(b) *Carrying of certificate,* which requires the airworthiness certificate (if not carried in the aircraft) be kept available for inspection at the base of dispensing operation is conducted, is necessary. MAVERICK DRONE SYSTEMS will keep registration certificates available for inspection.

MAVERICK DRONE SYSTEMS has attempted to identify the appropriate C.F.R.s from which an exemption is needed in order to conduct the proposed operations in this Petition for Exemption. To the extent that the FAA determines that MAVERICK DRONE SYSTEMS needs an exemption from other C.F.R.s which are not addressed or explicitly named in order to conduct the proposed operations, MAVERICK DRONE SYSTEMS also seeks an exemption from those FARs for the reasons outlined above.

G. UAS OPERATING PARAMETERS

- Operations authorized by this grant of exemption are limited to any small unmanned aircraft system (UAS) model with a maximum takeoff weight of less than 55 pounds, including everything that is on board or otherwise attached to the aircraft.
- When adding any small UAS or new small UAS models that will be operated under this

exemption, the operator must notify the Flight Standards District Office (FSDO) which holds their operating certificate. Additionally, operations authorized by this exemption are limited to the small UAS listed on the operator's part 137 Letter of Authorization (LOA).

- Prior to any flight operation, MAVERICK DRONE SYSTEMS will visit the area of planned operation and inspect the terrain and vantage points. MAVERICK DRONE SYSTEMS utilizes a number of tools available to capture this environmental data, including high-resolution LiDAR, photogrammetry, and handheld surveying tools. The result is a geo-rectified model of the unit, with GPS points accurately marking the boundaries of the geofenced flight operating area.
- Following that, all state and local paperwork associated with the operation will be filed before and after operations. MAVERICK DRONE SYSTEMS will comply with all state laws regarding the application of pesticides. These include state and local agency notification, mapping, and specified safety procedures.
- The PIC will hold a Part 107 remote pilot airman certificate and be at least 18 years of age.
- Prior to beginning operations, the PIC will take all preflight actions as set forth in its flight manual, which includes a comprehensive preflight checklist.
- Flights will be limited to a maximum altitude of no more than 400 feet above ground level (AGL) and will normally be flown at altitudes of 20 to 30 feet AGL or less over private fields and other agricultural areas.
- The areas to be flown are remote agricultural sites or other uninhabited agricultural sites which makes for excellent VLOS conditions.
- All operations will occur in a closed-access environment.
- All personnel at the site will be controlled by MAVERICK DRONE SYSTEMS at the time of flying. The T-10 shall operate from on-site takeoff/landing locations directly next to the PIC. In addition, signage announcing future spraying operations will be posted at the site entrance warning any customer employees or non-Participants that an aerial spraying operation is occurring. This is an industry standard process.
- The maximum flight time for each UAS flight will be a maximum of 30 minutes, with most agricultural flights lasting approximately 10-20 minutes.

H. FEDERAL REGISTER SUMMARY FOR PUBLICATION AND COMMENT

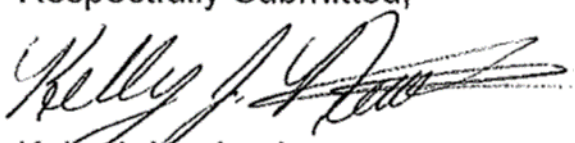
MAVERICK DRONE SYSTEMS, an operator of Small Unmanned Aircraft Systems (sUAS) is applying for an exemption from 14 C.F.R. 107.36; 137.19(c); 137.19(d); 137.19(e)(2)(ii), (iii), and (v); 137.31(a) & (b); 137.33(a) and (b); 49 C.F.R. 175.9, Code of Federal Regulations to operate an unmanned aircraft system (UAS) for commercial agricultural- related services. The relief requested is similar to that granted in Exemption No. 17261 Droneseed and should be considered a summary grant.

I. CONCLUSION

For the foregoing reasons, MAVERICK DRONE SYSTEMS respectfully requests that the FAA grant this Summary Grant Petition for Exemption. Should you have any questions, or if you need additional information to support MAVERICK DRONE SYSTEMS's Petition,

please do not hesitate to contact the undersigned.

Respectfully Submitted,



Kelly J. Neubecker

Cc. Adam Shaw